

1) let $x = 3$ in y

let $\langle id \rangle = \langle expr \rangle$ in $\langle expr \rangle$
let $\langle id \rangle = \langle expr \rangle$ in $\langle id \rangle$
let $\langle id \rangle = \langle expr \rangle$ in y
let $\langle id \rangle = \langle dig \rangle$ in y
let $\langle id \rangle = 3$ in y
let $x = 3$ in y

let $\langle id \rangle = \langle expr \rangle$ in $\langle expr \rangle$
let $x = \langle expr \rangle$ in $\langle expr \rangle$
let $x = \langle dig \rangle$ in $\langle expr \rangle$
let $x = 3$ in $\langle expr \rangle$
let $x = 3$ in $\langle id \rangle$
let $x = 3$ in y

Thus the grammar is ambiguous.

2) $\langle id \rangle ::= a|b|c|\dots|z$
 $\langle dig \rangle ::= 1|2|3|\dots|9$
 $\langle expr \rangle ::= ()|\langle dig \rangle|\langle id \rangle$
| let $\langle id \rangle = \langle expr \rangle$ in $\langle expr \rangle$
| $\langle expr \rangle$; $\langle expr \rangle$
| begin $\langle expr \rangle$ end



$\langle id \rangle ::= a|b|c|\dots|z$
 $\langle dig \rangle ::= 1|2|3|\dots|9$
 $\langle const \rangle ::= \langle id \rangle|\langle dig \rangle$
 $\langle expr \rangle ::= \langle const \rangle$
| let $\langle id \rangle = \langle const \rangle$ in $\langle expr \rangle$
| $\langle expr \rangle$; $\langle expr \rangle$
| begin $\langle expr \rangle$ end

3) let $x = 3$ in y

let $\langle id \rangle = \langle const \rangle$ in $\langle expr \rangle$
let $\langle id \rangle = \langle const \rangle$ in $\langle const \rangle$
let $\langle id \rangle = \langle const \rangle$ in $\langle id \rangle$
let $\langle id \rangle = \langle const \rangle$ in y
let $\langle id \rangle = \langle dig \rangle$ in y
let $\langle id \rangle = 3$ in y
let $x = 3$ in y